



Angle sensor 424A

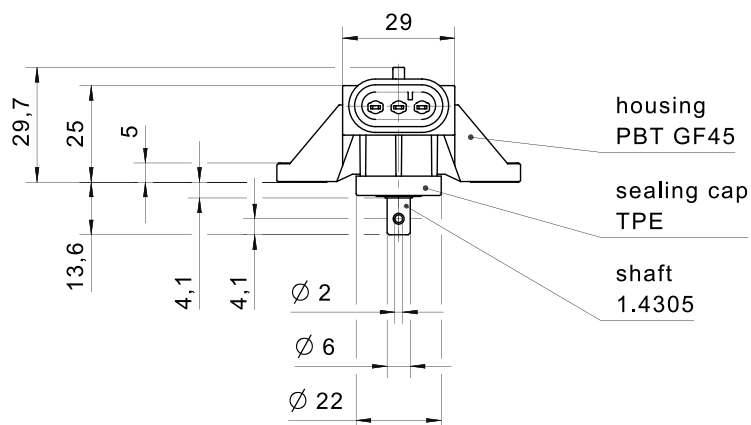
The angle sensor 424A is used for measuring angles between 30° and 120°. The 424A is based on the contactless Hall measurement principle, which is extremely reliable and ensures a long service life. Due to high protection class IP67, the sensor can be used reliably even under tough environmental conditions. Owing to their robustness, the sensors are particularly suitable for measuring the angular positions of rotating elements under extreme environmental conditions, e.g. on mobile machinery, in cranes, excavators, ships, mobile and stationary waste compactors, valve controllers, robot technology and wind turbines or in large medical devices.

Product characteristics

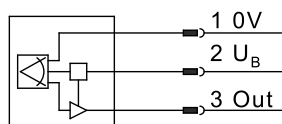
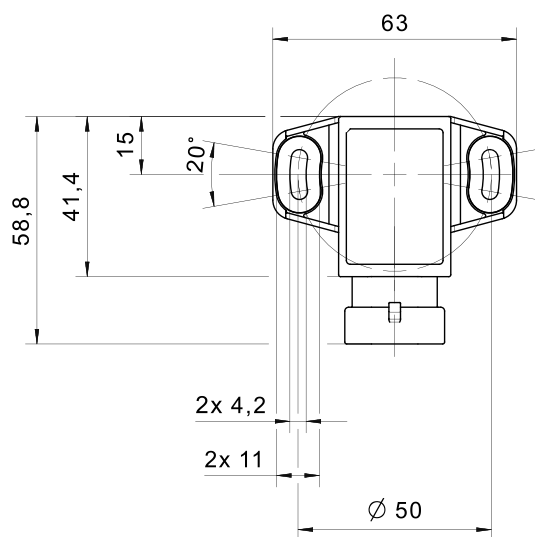
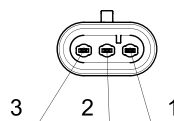
- Long lifetime and extremely reliable from contactless measurement with Hall principle
- Angle measurement range between 30° and 120°
- IP67 protection class for harsh environmental conditions
- Operating temperature range from -40 °C to +85 °C
- Resolution 0.1°
- Various current or voltage output signals
- Infinitely short-circuit proof
- Available together with actuation lever for simple connection
- EMV stable for the motor vehicle sector, field withstand 200 V/m
- Ball bearing (optionally with plain bearing)

Technical drawing

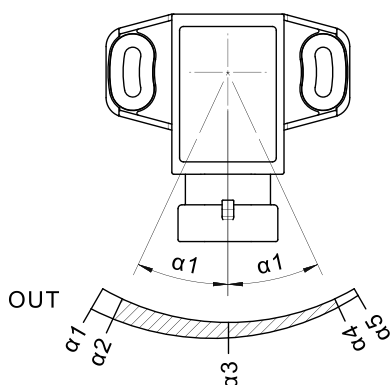
IMAGE 1/1



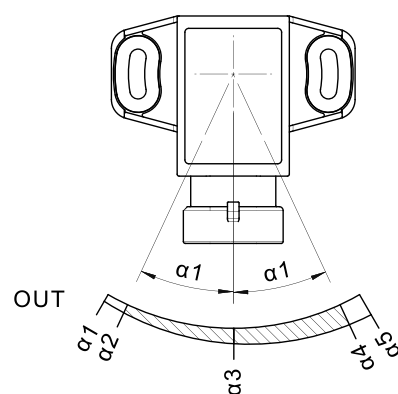
AMP-Superseal 1,5 male



424A...CW



424A...CCW



Product options

IMAGE 1/1

ORDERING KEY

| 424A... | | | | | Angle sensor 120°, magnetic |
|---------|---|----|-----|---|--|
| | | | | | |
| | | | | | Bearing |
| | 1 | | | | Ball bearing |
| | | | | | |
| | | | | | Output signal 1 / signal sequence |
| | | 1A | | | 4...20mA / CCW |
| | | 6A | | | 0.5...4.5V, ratiometric / CCW |
| | | 7A | | | 0.5...4.5V / CCW |
| | | | | | |
| | | | | | Angle measuring range |
| | | | 030 | | 30° |
| | | | 045 | | 45° |
| | | | 060 | | 60° |
| | | | 090 | | 90° |
| | | | 120 | | 120° |
| | | | | | |
| | | | | | Operating lever |
| | | | | B | Yes |
| | | | | - | No (if selected without lever, this position is omitted) |

Optional

Output signal 1

1...5V

Other output signals, signal sequences and angle rates on request

Article characteristics

| Attribute | 424A.1A... | 424A.6A... | 424A.7A... |
|---|---|---|---|
| Polarity reversal protection | yes | | |
| Output signal min. | - | 0.5 V DC | |
| Output signal max. | - | 4.5 V DC | |
| Output signal min. | 4 mA | - | |
| Output signal max. | 20 mA | - | |
| Output signal - centre position/zero position | - | 2.5 V DC | |
| Output signal - centre position/zero position | 12 mA | - | |
| Resolution | 0.1 ° | | |
| Operating voltage min. | 10 V DC | 4.5 V DC | 10 V DC |
| Operating voltage max. | 30 V DC | 5.5 V DC | 30 V DC |
| Current consumption | 18 mA | 8 mA | 10 mA |
| Load resistance min. | - | 20000 Ohm | |
| Load resistance max. | 250 Ohm | - | |
| Short-circuit resistance to GND | yes | | |
| Short-circuit resistance to supply | yes | | no |
| Temperature coefficient | typ. ±250 ppm/K | | |
| Signal sequence | Standard CCW (optional CW) | | |
| Signal update rate | 2000 Hz | | |
| Outputs (quantity, type) | 1 | | |
| Technology | Hall | | |
| Angle measuring range | 30°...120 ° | | |
| Outputs | 4...20mA | 0,5...4,5V ratiometric | 0,5...4,5V |
| MTTF | 101 a | 225.7 a | 133 a |
| Typical linearity error | = ±15° : ±0,2° = ±25° : ±0,4° = ±35° : ±1,0° = ±45° : ±2,0° = ±60° : ±5,0° | | |
| EMC Agricultural and forestry machines (Norm) | EN ISO 14982 pulse 5b: max. voltage 35V (absolute), functional status C for pulse 1 and 4 | EN ISO 14982 conducted disturbance not applicable for 5V supply | EN ISO 14982 pulse 5b: max. voltage 35V (absolute), functional status C for pulse 1 and 4 |
| EMC Earth-moving and building construction machinery (Norm) | DIN EN ISO 13766-1 pulse "load dump": max. voltage 35V (absolute) | DIN EN ISO 13766-1 conducted disturbance not applicable for 5V supply | DIN EN ISO 13766-1 pulse "load dump": max. voltage 35V (absolute) |

| Attribute | 424A.1A... | 424A.6A... | 424A.7A... |
|------------------------------|-------------------|------------|------------|
| EMC Industrial trucks (Norm) | DIN EN 12895 | | |
| Max. shaft load, axial | 50 N | | |
| Max. shaft load, radial | 100 N | | |
| Bearing | Ball bearing | | |
| Mechanical stop | Optional | | |
| Actuating lever | Selectable | | |
| Protection class | IP67 DIN EN 60529 | | |
| Operating temperature min. | -40 °C | | |
| Max. operating temperature | 85 °C | | |
| Min. storage temperature | -40 °C | | |
| Max. storage temperature | 85 °C | | |
| Torque for fastening screws | 2.5 N m | | |
| Connector type | AMP Superseal 1.5 | | |